Region 6 - Northeast Montana

Fort Peck Reservoir and Upper Missouri River Paddlefish Stock

Fishing pressure and harvest of paddlefish has been trending upward over the last several years requiring FWP to implement conservation measures. This will allow snaggers the opportunity to continue harvesting fish, without losing the self-sustaining paddlefish population in this area. Based on the results of the 2007 creel survey season in the Missouri River above Ft. Peck Reservoir, additional fish regulation changes will be implemented in the 2008 season. A quota of 500 fish was established, the paddlefish snagging season was set to run from (May 1st to June 15th), hook size restriction were set, mandatory catch and release and harvest days were eliminated, and immediate release was further defined for paddlefish. For specifics on regulation changes, please refer to the 2008 fish regulation booklet.

Fresno Reservoir

In 2007, walleye were at their highest abundance levels on record (6.25 fish/net) this indicates excellent survival and recruitment of stocked YOY walleye, especially the 2005 and 2006-year class. In 2007, 6.7% of the walleye were sub-stock (less than <10 in.), 79.4% were 10-14.9 in. and 9.5% were quality size 15-19.9 in. Walleye sampled ranged in length from 6.8 to 26.3 in. and in weight from 0.1 to 6.95 lbs.

The population of adult northern pike decreased slightly in 2007. The population is currently well balanced with a high number of 14-20.9 in. and less than 14 in. fish as well as high number of quality 21-27.99 in., preferred 28-33.99 in., and memorable greater than 34 in. size fish groups. Based on the YOY surveys in 2006 and 2007, the northern pike population will continue to be elevated in 2008 and the proportion of preferred and memorable size northern pike should continue to increase as the population ages. Sauger populations increased in 2001 and 2002 when drought and extreme drawdowns resulted in an increase in riverine habitat, however no sauger were collected in 2007.

Nelson Reservoir

In 2007, yellow perch, spottail shiner, and white sucker production appeared to be similar to previous two years.

The relative abundance of adult walleye has remained relatively stable over the last five years with a minor decrease in catch rates in 2005 (8.8 fish/gill net). In 2006, walleye numbers increased to 13.3 fish/gill net. And in 2007, walleye numbers increased to 16.1 fish/gill net. The condition of walleye continues to increase after low water levels in 2002. These high condition indices are attributable to a forage base that is adequate for the existing population levels of predators. Walleye sampled in 2007 ranged in length from 7.5 to 30.0 in. and weighed 0.12 to 9.8 pounds, with the average being 14.7 inches in length and weighing 2.2 pounds.

In 2007, the relative abundance decreased to 1.9 fish/gill net. The population currently consists of many new recruits with 42.1% being less than 14 in., 15.8% being 14-20.9 in., 31.6% being quality size 21-27.9 in., and 10.5% being preferred size 28-33.9 in.

Beaver Creek Reservoir

Abundance of forage fish appears to be on the decline in 2007, as indicated by annual beach seining. In the summer of 2007, there was a partial kill of yellow perch, however based on fall gill netting there were no negative impacts to the population, relative to previous year's sampling.

In 2007, the YOY northern pike catch was greatly reduced. The adult population still consists primarily of larger adults 19.7 to 39.3 in. and as the YOY fish continue to be recruited into the population the abundance of northern pike will probably peak causing marked declines in the abundance of stocked rainbow trout and forage fish.

In 2007, 29% of the walleye sampled were greater than 15.0 in. Overall, 12.9% were quality size 15-19 in., 6.45 % were preferred size (20-25 in.), and 9.67% of the walleye sampled were memorable greater than 25 in.

Lower Missouri River

<u>Pallid Sturgeon</u>

This spring, Montana fisheries crews from Fort Peck, Glendive, and Miles City, as well as USFWS crews from North Dakota gathered at the Missouri and Yellowstone river confluence to capture wild adult pallid sturgeon to spawn at hatcheries. The crews captured 13 "ripe" females that were transported to Miles City State Fish Hatchery, Garrison National Fish Hatchery, and Gavins Point National Fish Hatchery. A banner year considering there are approximately 120 of these critters remaining in this area. After spawning, the progeny are being raised at these hatcheries, as well as Fort Peck and the Bozeman Fish Technology Center. Since there has been no recruitment of these fish in at least 35 years, pallid sturgeon rely solely on this hatchery program to keep the species from becoming extirpated until habitat improvements are implemented. The stocking program has been in place since 1998. Anglers should be aware that that these smaller fish are out there and they are illegal to possess. They look very similar to shovelnose sturgeon, which are relatively abundant in the system. Most of these young pallid sturgeon have colored lines on the underside of their snout however; anglers should release any sturgeon if they are uncertain of the species.

Since there was an exceptional number of gravid females this year, we were able to implant two of these fish with transmitters to help us determine if, when and where these

fish are spawning. These fish were tracked on a daily basis. One female migrated up to the Intake Diversion Dam but after a few days, came back downstream. Both of the fish spawned in the Yellowstone River in mid-June near Fairview. This was the first documentation of pallid sturgeon spawning in this area.
Spawning at the hatcheries was very successful which led to an abundance of larvae that needed to be moved out to make room to rear others to a larger size. This allowed us to perform a Missouri River mainstem larval drift test. We released pallid sturgeon larvae of three different ages near Wolf Point and followed their movement downstream to North Dakota. It was estimated that these larvae drift with the current until they are about 14 days old and may need up to 600 kilometers of river before settling out and beginning their bottom dwelling benthic life stage.

The Pallid Sturgeon Population Assessment program finished its second full field season during 2007 monitoring juvenile pallid sturgeon in the Missouri River below Fort Peck Dam. The crew's main objective is to assess the pallid sturgeon population through time, which will allow us to gauge the benefits of our current propagation program and how environmental events influence this endangered species. Similarly, the crew monitors numerous species of game and non-game fishes both native and introduced to the Missouri River. By monitoring the populations of many of the shorter lived species in the river we will be better able to detect changes to the overall fish habitat of the Missouri River on a shorter time interval than if we were only looking at the very long-lived and late maturing pallid sturgeon.

During 2007 the crew implemented a new gear, the push trawl. The push trawl is employed by pushing a net that is connected to two large booms extending out in front of the bow of the boat through shallow water. The gear has been effective at capturing two relatively rare native minnows, the sicklefin chub, and the sturgeon chub. Both species are thought to be a preferred prey item for pallid sturgeon and are important indicators of aquatic health.

In addition to the standardized monitoring, the Population Assessment crew has been tagging both sauger and shovelnose sturgeon with visible tags that will help biologists better understand their growth rates and movement patterns. If enough of these important game fishes are tagged and recaptured by either biologists or the public, we may be able to quantify the sizes of their populations in the Missouri River. If anglers capture these fish they can help biologists by reporting the species, date of capture, capture location, size, and if the fish was harvested or released to the phone number provided on the tags. The information is beneficial to biologists if anglers harvest or release the fish.

<u>Other Activities</u>
This was the third consecutive year that wildlife and fisheries crews combined efforts to capture spiny soft shell turtles in the Missouri River from Fort Peck Dam to North Dakota. This completed the 180-mile reach of river, however we did not capture any spiny soft shells. They are abundant above Fort Peck Reservoir and in the Yellowstone River and it is thought that habitat alterations from Fort Peck Dam have forced these turtles to move elsewhere.

The Adopt-a-fish program is still gaining popularity. This year researchers from the Yellowstone River added some new areas and new species to the list. This program allows students to adopt one or two of our radioed paddlefish, blue sucker, shovelnose sturgeon, pallid sturgeon, burbot, channel catfish, or spiny soft shell turtles, name it, and track their weekly movements over the internet. This is a cooperative effort with Montana Fish, Wildlife and Parks, U.S. Geological Survey, the Billings Gazette, and Walleyes Forever. For more information or to adopt your own fish look up www.walleyesforever.com and click on the Missouri-Yellowstone River Adopt-a-Fish icon.

Fort Peck Reservoir
(Heath Headley)

The drought has persisted into 2007; however, it wasn't as severe as previous years, with the pool raising nearly five feet in early summer. The reservoir's peak elevation was reached on July 6, at 2203.2 feet msl. Snow pack in the mountains was less than average and the plains area received little amounts of snowfall once again. However, a moderate amount of spring precipitation was able to contribute to the minimal amount of snow that accumulated over the winter months. It is uncertain on the amount of snow pack that we will receive this winter, but Fort Peck is forecasted to maintain a reservoir elevation of 2200 feet msl throughout the winter. Fortunately, there are still reservoir areas that are 160 feet deep, so cold-water habitat is still available for the salmon and lake trout program to continue. A limited amount of shoreline vegetation was flooded in 2007, followed by a stable pool during the summer months. Ultimately, this flooded vegetation provides increased spawning/rearing habitat for forage fish and game fish along with nutrients that increase overall lake productivity.

The walleye spawn continues to be plagued by low water levels pushing our spawning operation further up the reservoir; however, we were still able to collect 82.2 million eggs that would benefit various walleye waters throughout the state. As a result of the spawn, 16 million fry and 2.5 million fingerlings were stocked throughout Fort Peck Reservoir in 2007. This operation requires a strong volunteer program in order to be successful. If anyone is interested in assisting with the walleye egg-take in April, please call (406) 526-3471 to join the 100 other volunteers that participate annually. It's a great way to learn more about the walleye fishery, see large walleye, and be a part of the statewide egg-take that benefits other Montana walleye fisheries.

Annual gill netting surveys indicated a slight increase from 2.4 walleye in 2006 to 3.1 walleye per net in 2007. The increase in abundance is attributed to a smaller length group of fish beginning to recruit into the population. Along with these smaller 10 to 16 inch fish, walleye anglers still have a good shot at catching others in the 24 to 28 inch range. Walleye numbers also increased as we moved further up the reservoir during our annual sampling season. Northern pike populations continue to remain at constant levels as they have in previous years with a majority of the population comprised of larger individuals.

Seining surveys showed an increase in abundance of shoreline forage, which includes young-of-year crappie, yellow perch, spottail, and emerald shiners. This can be attributed to the spring rise in reservoir elevation followed by a stable pool during their

spawning and rearing period. This is encouraging because these four species comprise a large portion of the diet for smaller predatory fish like walleye, northern pike, and smallmouth bass. Smallmouth bass young-of-year continue to be one of the most dominant game fish in seine hauls. They also benefited from a stable pool during their spawning and rearing period resulting in a much larger year class than in 2006.

Cisco young-of-year had a limited year of reproduction with catches decreasing substantially from 137 cisco per net in 2006 to 37 cisco per net in 2007. This occurred even though the lake completely froze on January 12th 2007, which decreases wave action that may cause sediment to cover eggs resulting in mortality. It is possible that the decline in YOY cisco was due to increased competition among other cisco and a drawdown in reservoir elevation during incubation. Larger cisco are the predominant forage base for cold-water species like salmon and lake trout, but are also utilized by larger walleye and northern pike.

The chinook salmon program continues to face minimal returns. However, the salmon run has gradually increased over the last couple of years. In 2007, 80 salmon were spawned yielding approximately 250,000 green eggs. This was nearly double the amount of females spawned and amount of eggs taken in 2006. As part of a tri-state salmon group, South Dakota will be able to supply surplus eggs to supplement our stocking requirements for 2008 season. It appears that increasing the size at stocking has contributed to the survival of juvenile chinook salmon since it was initiated in 2004. This year, 51,977 chinook fingerlings were stocked into Fort Peck with 36,418 spring stocked at three inches and the remaining 15,559 were fall stocked at 7 inches.

Lake trout were not spawned in 2007 and the drought has continued to pose a problem for available lake trout spawning habitat. Due to these conditions, it appears that a majority of the population is comprised of larger and older individuals. These individuals were likely a result of the high water conditions during late 1990's and are now beginning to recruit into the spawning population. At this time lake trout rearing space is non-existent and special accommodations will need to be made if future stocking efforts are to take place. Lake trout tagging still continues, so anglers are encouraged to report tagged fish. If you catch a lake trout or any other tagged fish in Fort Peck, record location, size (length and weight if possible), date caught, tag number and color. After recording the information you may call (406) 526-3471 or send the information to us at Montana Fish, Wildlife and Parks, PO Box 167, Fort Peck, Montana 59223, or contact any regional office and they can supply us with the given information. Tag information is an important part of fisheries data as it provides insight into movements, harvest rates, and growth that allow us to better manage for a particular species.